

CLAIMS

1. A method of making decorative panels of stone material or the like, wherein:

- a stack (1) is formed consisting of parallel slabs (2) of the decorative stone material and of additional layers (3, 4), comprising framework layers (3) and separating layers (4) between panels;

- the stack is placed inside a liquid-tight container (10), interposing at least between one head of the stack (1) and one wall of the container (10) possible filling elements (21) if the stack (1) has a length smaller than the container (10);

- a depression is created in the container, said depression being maintained while feeding a hardenable binder (15), intended for impregnating and encapsulating the stack (1), the binder (15) being of a material that does not adhere to the separating layers (4);

- the binder (15) is let or made to harden so to obtain a monolithic block (16) that is then cut to produce raw panels (25) comprising at least one decorative slab (2) joined to at least one framework layer (3);

characterised in that: possible size differences among slabs (2) in the stack (1) are compensated; filling elements (21) are also introduced or formed in the container (10) in order to fill empty spaces left from a stack (1) having a length smaller than the container (10); and, as filling elements (21), expandable elements

are at least partially employed.

2. A method according to claim 1, characterised in that, in order to compensate said size differences among slabs (2), onto one or more edges of small size slabs, additions (20B) of high density expandable material are made that fill the recesses existing on the sides of the stack (1) in correspondence to said small size slabs.

3. A method according to claim 2, characterised in that said high density expandable material is fed in the container (10) at the liquid state and it is let or made to expand before feeding the binder (15).

4. A method according to claim 1, characterised in that, in order to compensate said differences among the slabs (2) sizes, during the stack (1) formation, along one or more edges of small size slabs, stiff elements (20A) are arranged, capable of being joined by the binder to the respective slabs (2).

5. A method according to claim 4, characterised in that said stiff elements (20A) are elements made of the same slabs (2) material.

6. A method according to claim 1, characterised in that said filling elements (21) are elements of high density expandable material fed in the container (10) at the liquid state and made or let to expand before feeding the binder (15).

7. A method according to claim 2 or 3 and to claim 6, characterised in that said filling elements (21) are made of the

same expandable material used for said additions (20B), and are formed simultaneously thereto.

8. A method according to claims 1 and 7, characterised in that, in order to make said filling elements (21), solid elements are employed obtained by expanding said expandable material and recovered after cutting, said elements providing for an approximate adaptation between the sizes of the stack and the container (10), liquid expandable material being added to said elements so to fill the remaining empty spaces.

10 9. A method according to anyone of the claims 2, 3 and from 6 to 8, characterised in that said high density expandable material is polyurethane.

10. A method according to claim 1, characterised in that said filling elements (21) consist of air cushions.

15 11. A method according to claim 1, characterised in that, during the stack (1) formation, a framework layer (3) is applied onto each of the main sides of each slab (2) of stone material, each framework layer being associated to a separating layer and the cutting operation producing raw panels comprising a decorative
20 slab (2) provided with a framework layer (3) on both sides.

12. A method according to claim 1, characterised in that, while creating the depression in the container (10) and feeding the binder, the stack (1) is heated so to be brought up to a temperature such as to allow, upon reaching the wanted vacuum
25 conditions, the humidity present in the stack (1) to evaporate.

13. A method according to claim 12, characterised in that the water vapour originating from the evaporation is made to freeze.

14. A method according to claim 12 or 13, characterised in that, during impregnation, a washing of the container (10) with inert
5 gases is carried out in order to eliminate any humidity residual.

15. A method according to anyone of the claims from 12 to 14, characterised in that the binder (15) is made to harden by applying a pressure higher than the atmospheric pressure.

16. A method according to claim 15, characterised in that, upon
10 termination of the binder (15) consolidation, the block (16) is cut along planes perpendicular to the layers, up to a depth such as to remove the solidified binder (15), the possible filling elements (21) and the edge portions (22) of the layers.

17. A decorative panel comprising at least a decorative slab (2)
15 of stone material or the like joined to at least one framework layer (3), obtained through a method according to anyone of the preceding claims.